

REMARKS

Applicants thank the Examiner for the thorough examination of the above-mentioned application. Currently, claims 1-4, 10-13, and 19-21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 2,989,130 to Mathewson *et al.* Also, claims 8, 9, 17, 18, and 25 stand rejected under 35 U.S.C. § 103(a) as being obvious over Mathewson *et al.* in view of U.S. Patent 1,923,132 to Witkin. Claims 5-7, 14-16, and 22-24 stand objected to as being dependent upon a rejected base claim. Claims 8 and 17 were also objected to for informalities.

Applicant has noted Examiner's objections to claims 8 and 17 for informalities as being indefinite. Accordingly, Applicant has adopted the Examiner's recommendation and changed the term "torqued" to --secured-- on line 3 of claims 8 and 17.

Applicant respectfully traverses the rejection that claim 1 is anticipated by Mathewson *et al.* Claim 1 requires an isolating mechanism to isolate a sampler barrel from any upward vibratory movement of a drill rod so that the sampler barrel receives only downward motion from the drill rod. In Applicant's invention, this is accomplished by using a drill rod 28a that is driven up and down by a sonic drill head to which it is attached and an isolating adapter coupling 12a that isolates the split barrel core sampler 10 so that it is only subject to downward movement of the drill rod 28a and does not follow the upward movement of the drill rod (paragraph [0032]). The isolating mechanism/adapter coupling includes an isolator box 66 that is movable relative to an isolator pin 68 such that on upward movement of drill rod 28a, rod adapter 40 will move up with drill rod 28a and separate from isolator pin 68 so that the attached split barrel 10 is not pulled upward on an upward movement of the drill rod (as shown in Figure 3). However, on downward movement, drill rod 28a drives rod adapter 40 into the flat end surface 94 of isolator pin 68 and thereby drives the split barrel 10 downward (as shown in Figure 4). (Paragraphs [0032]-[0034]).

Mathewson *et al.* does not disclose a mechanism to isolate the sampler barrel from upward movement. Rather, Mathewson relates to an isolating means adapted to be disposed between a sonic lead vibrator earth bore and supporting drill string to prevent the transmission of resonant vibrations from the drill rod to the drill string and to prevent the transmission of vibrations corresponding to the second harmonic of the resonant vibration frequency (Mathewson *et al.*, column 1, lines 68-72 and column 2, lines 1-4). Mathewson *et al.* discloses that this is accomplished using a slender inner telescopic member 22 and outer telescopic sleeve section 21

and that the sleeve member 21 is compliant and interconnected with the inner pipe section 22 and a velocity node to effectively reflect or eliminate the transmission of vibrations at the resonant drilling frequency upward beyond the point of connection 25. (Column 4, lines 1-63). This inner and outer telescopic device arrangement disclosed by Mathewson *et al.* to dampen resonant vibrations is not related to the subject invention, and nothing in Mathewson *et al.* discloses or describes providing downward movement of drill bit 11 while preventing upward movement of it while the drill string is being vibrated as required by claim 1.

As claim 1 is not anticipated by Mathewson *et al.*, and should be allowable, dependent claims 2-9 should also be allowable.

Applicant also respectfully traverses the rejection to claim 8 as being obvious over Mathewson *et al.* in view of Witkin. In addition to the reasons stated above regarding claim 1, from which claim 8 depends, claim 8 also requires a threaded connection to be secured with bolts. In Applicant's invention, bolts 70 are threaded through apertures 90 in isolator pin 68, and the bolts are torqued to put the threaded connection, comprising threads on tapered bore 84 of isolator pin 68 and threads 60 on core barrel adapter 42, in compression (Figure 3 and paragraphs [0029]-[0030]). Accordingly, bolt 70 does not form the connection between isolator pin 68 and adapter 42, it just secures the above-mentioned threaded connection between the two members in a compressed state. Witkin, on the other hand, discloses frangible pins 20 extending into holes in both head 15 of tubular connecting member 14 and head 9 of housing 8 to provide a torque limiting/shearing drive means that will break and permit the free rotation of the housing 8 if the torque limit is exceeded (column 2, lines 30-66). Accordingly, when pins 20 break, there is a free rotation between head 15 and head 9/housing 8, and there is no threaded connection between head 15 and head 9 that bolts 20 secure. The only threaded connections shown are between head 9 and housing 8, and head 15 and head 16, so that pins 20 do not secure these threaded connections or any threaded connections.

Claim 9 also provides additional limitations not taught or disclosed in either Mathewson *et al.* or Witkin. Claim 9 requires that the bolts extend through threaded apertures in the isolator pin and are turned against an end of the barrel adapter, as shown in Figure 3 and described in paragraph [0030] of the subject application. On the other hand, bolts 20 in Witkin are threaded into an aperture in head 9 and not against an end of it.

Applicant also respectfully traverses the rejection that claim 10 is anticipated by Mathewson *et al.* Claim 10 requires an isolating mechanism that isolates a sampler barrel from any upward vibratory movement of the drill rod so that the sampler barrel receives only downward motion from the drill rod. For the same reason discussed above regarding claim 1, claim 10 is also not anticipated by Mathewson *et al.*

As independent claim 10 is not anticipated by Mathewson *et al.* and should be allowable as described above, independent claims 11-18 should also be allowable.

Regarding claim 17, Applicant further traverses the rejection of this claim, which requires that the isolator pin is connected to the barrel adapter with a threaded connection, and the threaded connection is secured with bolts. For the reasons set forth above regarding claim 8, claim 17 is also not obvious over Mathewson *et al.* in view of Witkin.

Regarding claim 18, Applicant further traverses the rejection to claim 18, which requires that bolts extend through threaded apertures in the isolator pin and are turned against an end of the sampler barrel adapter. For the reasons set forth above regarding claim 9, claim 18 is also not obvious over Mathewson *et al.* in view of Witkin.

Applicant also traverses the rejection to claim 19, which includes the limitation of an isolating means for isolating movement of a sampler barrel from upward vibratory movement of the drill rod. For the reasons set forth above regarding claim 1, Mathewson *et al.* does not anticipate a means to inhibit the sampler barrel from upward movement of the drill rod.

As claim 19 is not anticipated by Mathewson *et al.*, and should be allowable, dependent claims 18-25, which depend from claim 19, should also be allowable.

Applicant further traverses the rejection to claim 25 as being obvious over Mathewson *et al.* in view of Witkin. Claim 25 requires an isolator pin connected to a barrel adapter with a threaded connection that is compressed with bolts extending through threaded apertures in the isolator pin and with the bolts being turned against an end of the barrel adapter. For the reasons set forth above regarding claims 8 and 9, neither Mathewson *et al.* nor Witkin teach or disclose this feature.

An earnest attempt has been made to respond fully and completely to the Office Action of
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August 2, 2005. Applicant believes all of the pending claims 1-25 are now in condition for allowance, and respectfully request passage thereof. Applicant notes that certain claims have been amended to advance prosecution of the Application and address informalities and that the amendments do not alter the scope of the claims.

If necessary to effect a timely response, please consider this paper a request for an extension of time, and charge any shortages in fees, or apply any overpayment credits, to Baker & Daniels LLP's Deposit Account No. 02-0387 (75971.22). However, please do not include the payment of issue fees.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

November 6, 2005

Date



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